

50103-553/STL 3394

METHOD & APPARATUS FOR MULTI-
STAGE SPUTTER DEPOSITION OF
UNIFORM THICKNESS LAYERS

ABSTRACT OF THE DISCLOSURE

A method of forming a uniform thickness layer of a selected material on a surface of a substrate comprises steps of:

- (a) providing a multi-stage cathode sputtering apparatus comprising a group of spaced-apart cathode/target assemblies and a means for transporting at least one substrate/workpiece past each cathode/target assembly, each cathode/target assembly comprising a sputtering surface oriented substantially parallel to the first surface of the substrate during transport past the group of cathode/target assemblies, the group of cathode/target assemblies adapted for providing different angular sputtered film thickness profiles; and
- 10 (b) transporting the substrate past each cathode/target assembly while providing different sputtered film thickness profiles from at least some of the cathode/target assemblies, such that a plurality of sub-layers is deposited on the surface of the substrate/workpiece which collectively form a uniform thickness layer of the selected material.